

IN THE DRAWINGS

Applicants propose to label the blocks in Figs. 1 and 2 of the drawings in accordance with the accompanying ANNOTATED SHEETS SHOWING CHANGES.

Enclosed herewith are REPLACEMENT SHEETS in which the above changes have been incorporated.

### REMARKS

Enclosed herewith is a Substitute Specification in which the specification as filed has been amended in various places to correct typographical and grammatical errors, and to also include section headings. In addition, the specification as filed has been amended on page 2 to indicate a U.S. patent corresponding to the cited International patent application. Enclosed herewith is form PTO/SB/08A listing this U.S. patent.

In support of the above, enclosed herewith is a copy of the specification as filed marked up with the above changes.

The undersigned attorney asserts that no new matter has been incorporated into the Substitute Specification.

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claim 13 has been cancelled, while the claims have been amended for clarity.

The Examiner has rejected claims 10-13 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,627,808 to Hajjar et al. The Examiner has further rejected claims 1, 2, 4, 6, 8 and 9 under 35 U.S.C. 103(a) Hajjar et al. in view of U.S. Patent 6,714,496 to Park et al. In addition, the Examiner has rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over Hajjar et al. in view of Park et al., and further in view of U.S. Patent 6,845,068 to Watanabe. Finally, the Examiner has rejected claim 5

under 35 U.S.C. 103(a) as being unpatentable over Hajjar et al. in view of Park et al., and further in view of U.S. Patent 5,602,566 to Motosyuku et al. Applicants acknowledge that the Examiner has found claim 7 allowable over the prior art of record.

The Hajjar et al. patent discloses a cross-track tilt error compensation method for optical disc drives in which a tracking offset signal (TOS) is derived as a function of the cross-track tilt between the disc and the optical head for application to a tracking error signal (TES) for offsetting an optical servo system thereby compensating for the cross-track tilt between the disc and the optical head.

As indicated in MPEP § 2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051,1053 (Fed.Cir.1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed.Cir.1989).

The Examiner has indicated that Hajjar et al. teaches the claim 10 limitations "a tilt control method for controlling a radial tilt of a recording surface of an optical disc with respect to an optical recording/reproducing beam" and "b) controlling a focusing state of the optical recording/reproducing beam and the

radial tilt based on said focus (FES) and tilt (TES) controlling output".

Applicant submits that the Examiner is mistaken. In particular, Hajjar et al. does not teach controlling the relative radial tilt in that there are no means disclosed or suggested in Hajjar et al. that would enable the radial tilt to be controlled. Rather, Hajjar et al. electronically compensates for the radial tilt by offsetting the tracking error signal. This is clearly indicated in Hajjar et al. at col. 3, lines 18-23, where it is stated "It is therefore important to compensate for the presence of cross-track tilt by generating an additional tracking offset signal to be added to the tracking error signal." Again, Hajjar et al. is compensating for the tilt, not correcting the tilt.

With regard to claim 11, the Examiner states "Hajjar et al. teaches...using a split coil arrangement to provide a focus adjustment; and supplying said focus and tilt controlling output to respective coils of said split coil arrangement (elements 14 and 20 of figure 6 and explained in column 5, lines 51-63). Although the reference uses two separate coils to provide focus and tilt control, the two coils serve the same purpose as the applicant of providing focus and tilt control."

Again, Applicant submits that the Examiner is mistaken. In particular, the element 14 is a focus actuator and effectively moves the objective lens 15 at the appropriate focus height with

respect to the surface of the disc 15a (col. 5, lines 36-40), while the element 20 is a tracking control coil which moves the objective lens in the cross-track (radial) direction (col. 5, lines 52-55). It should be noted that Hajjar et al. does not indicate that either of these actuators (or coils) has any special configuration. Applicant submits that regardless of the signals applied to these coils, the tilt angle between the disc and the radiation beam will not change. Rather, in Hajjar et al., the focus height and the tracking position is adjusted to compensate for tilt in the cross-track direction.

The Park et al. patent discloses a method for calibrating tilt in disc player, in which the time (FET1) needed for the optical pickup unit to achieve focus when it is traveling from a low point to a high point is measured, and the time (FET2) needed for the optical pickup unit to achieve focus when it is traveling from a high point to a low point is measured. Based on the difference between these times and a standard time measurement, the disc is tilted using a tilt motor to compensate for any tilting of the disc.

The Examiner now states that it would be obvious to include the concept of multiple focus error output signals as taught by Park et al. into the system of Hajjar et al.

Applicant submits that the signals being produced by Park et al. are not focus error signals, but rather are time

measurements. If, however, multiple measurements were to be performed in Hajjar et al., this would still not give Hajjar et al. the ability to correct tilt error, but rather, would give Hajjar et al. more information for compensating for disc tilt.

Further, Applicant submits that the subject invention specifically claims "actuating means for controlling a focusing state and the radial tilt of the optical recording/reproducing beam based on said two focus controlling outputs". It should be apparent that Hajjar et al. does not include such actuating means. Further, Park et al. includes actuating means (the tilt motor) for controlling the radial tilt of the disc, not the optical beam.

The Watanabe patent discloses an optical disk apparatus and focus control method thereof, which arguably discloses a PID operation for forming focus control signals. However, Applicant submits that Watanabe does not supply that which is missing from Hajjar et al. and Park et al., i.e., "control means for generating two focus controlling outputs" and "actuating means for controlling a focusing state and the radial tilt of the optical recording/reproducing beam based on said two focus controlling outputs".

The Motosyuku et al. patent discloses a small-sized information processor capable of scrolling screen in accordance with tilt, and scrolling method therefor, in which, as indicated in the Abstract:

"A small-sized information processor which is used while being held in one hand, and which can scroll a display screen in accordance with a tilt. When a scroll start switch is depressed, the tilt angle of a display unit at this time is detected as an initial tilt angle by a tilt sensor. When a predetermined time period has lapsed since the depression of the switch, the tilt angle of the display unit is detected as a second tilt angle by the tilt sensor. The initial tilt angle is subtracted from the second tilt angle by a processing unit, thereby calculating the relative tilt angle of the display unit. The processing unit scrolls the display screen of the display unit on the basis of the calculated relative tilt angle. The scrolling speed of the display unit may well be changed in accordance with the width of the relative tilt angle."

Firstly, Applicant would like to note that Motosyuku et al. is not analogous art, in that Motosyuku et al. is not concerned about correcting or compensating for tilt, but rather, controls scrolling of an image on display based on the difference in tilt from an initial position. As indicated in MPEP § 2141.01(a):

"In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

Hence, Applicant believes that Motosyuku et al. is an improper reference and should not be combined with Hajjar et al. and Park et al.

Notwithstanding the above, according to the Examiner:

"Motosyuku et al teaches a device according to claim 1, characterized in that said control means is arranged to set a mean disc tilt value in a tilt register (column 7, lines 32-50). The device taught records the tilt

angle value of a processor into a register. This is similar to recording the tilt value of a disc as both inventions relate to fixing errors caused by tilt, although they are for two different devices."

First, by merely reading this section of Motosyuku et al., it should be apparent that there is no mean tilt value being determined or stored in Motosyuku et al. Rather, an actual tilt value is stored in a register. Further, Applicant submits that the Examiner's understanding of Motosyuku et al. is flawed, in that Motosyuku et al. is not concerned with "fixing errors caused by tilt", but rather, is using the tilting of a handheld device in order to control scrolling of the content being displayed on a display screen of the handheld device.

Hence, Applicant submits that Motosyuku et al. is not even remotely related to the subject invention, and neither shows nor suggests "said control means calculates a mean disc tilt value in a tilt register".

Further, Applicant submits that Motosyuku et al. does not supply that which is missing from Hajjar et al. and Park et al., i.e., "control means for generating two focus controlling outputs" and "actuating means for controlling a focusing state and the radial tilt of the optical recording/reproducing beam based on said two focus controlling outputs".

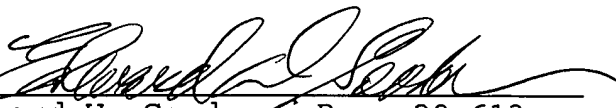
In view of the above, Applicant believes that the subject invention, as claimed, is neither anticipated nor rendered obvious



by the prior art, either individually or collectively, and as such,  
is patentable thereover.

Applicant believes that this application, containing  
claims 1-12, is now in condition for allowance and such action is  
respectfully requested.

Respectfully submitted,

by   
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By Burnett James

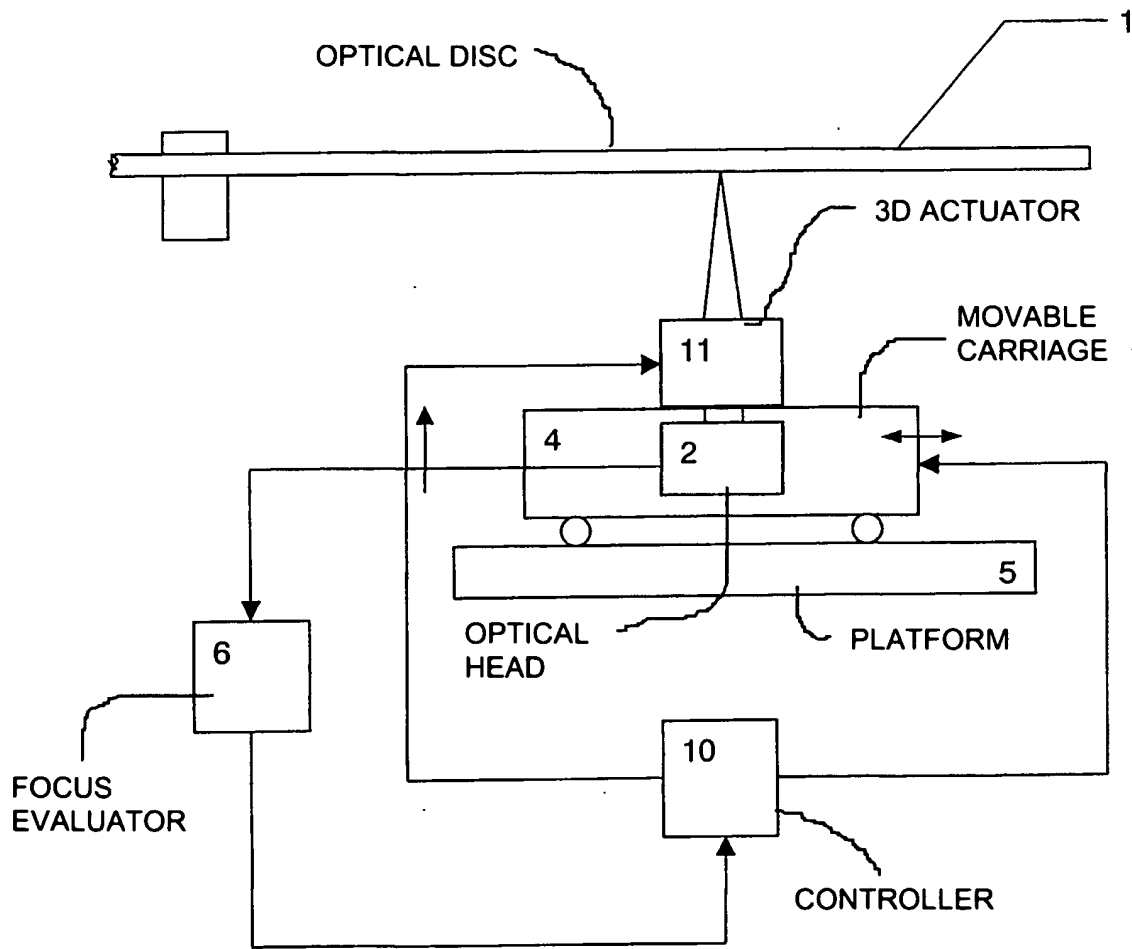
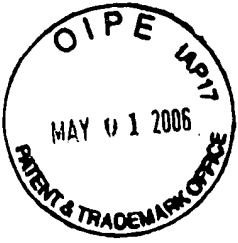


FIG.1

